

Appln. of: SCHREIBER
Serial No.: 10/758,214
Filed: January 16, 2004

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A fan blade in a solid material for a gas-turbine engine, including a blade root attachable to a fan rotor disk and an opposite blade tip, wherein at least one cavity starting out from a free face of the blade tip and extending in a direction of the blade root is provided in a limited blade tip portion, the at least one cavity comprising a pocket initially open to a suction side of the blade and a plate joined to the blade to at least partially close the pocket.
2. (Original) A fan blade in accordance with Claim 1, wherein the fan blade includes several cavities and at least one of a length and a cross-sectional area of the several cavities varies over the width of the fan blade.
3. (Original) A fan blade in accordance with Claim 2, wherein one of the cavities situated closer to a leading edge of the fan blade has at least one of a smaller length and a cross-sectional area than a cavity situated closer to a center of the blade.
4. (Original) A fan blade in accordance with Claim 2, wherein a cavity near a center of the blade has the greatest length.
5. (Original) A fan blade in accordance with Claim 1, wherein a cross-sectional shape of the at least one cavity is at least one of essentially rectangular, oval and round.
6. (Original) A fan blade in accordance with Claim 1, wherein a longitudinal axis of the at least one cavity follows a twist of the blade.
7. (Original) A fan blade in accordance with Claim 1, wherein a cavity cross-section decreases gradually at its bottom end facing the blade root and runs out in the form of a wedge.
8. (Original) A fan blade in accordance with Claim 1, wherein the at least one cavity is produced by erosive material removal from a solid fan blade.

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9. (Original) A fan blade in accordance with Claim 1, comprising a separately made solid blade portion and a separately made hollow blade portion which are connected together.

10. (Original) A fan blade in accordance with Claim 9, wherein the separately made hollow blade portion comprises a sheet-metal shell.

11. (Original) A fan blade in accordance with Claim 9, wherein the separately made hollow blade portion is produced from solid material by erosive material removal.

12. (Original) A fan blade in accordance with Claim 9, wherein the separately made hollow blade portion is constructed of a material that is different than that of the solid blade portion.

13. (Original) A fan blade in accordance with Claim 1, wherein the blade comprises several cavities separated from each other by reinforcing ribs.

14. (Cancelled)

15. (Currently Amended) A fan blade for a gas-turbine engine, comprising:

a substantially solid blade root portion constructed and arranged to be attachable to a fan rotor disk; and

a blade tip portion opposite the blade root portion, the blade tip portion including at least one cavity starting out from a free face of the blade tip portion and extending in a direction toward the blade root portion,

wherein the at least one cavity comprises a pocket initially open to a suction side of the blade and a plate joined to the blade to at least partially close the pocket.

16. (Original) A fan blade in accordance with Claim 15, wherein the fan blade includes several cavities and at least one of a length and a cross-sectional area of the several cavities varies over the width of the fan blade.

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17. (Original) A fan blade in accordance with Claim 16, wherein one of the cavities situated closer to a leading edge of the fan blade has at least one of a smaller length and a cross-sectional area than a cavity situated closer to a center of the blade.
18. (Original) A fan blade in accordance with Claim 16, wherein a cavity near a center of the blade has the greatest length.
19. (Original) A fan blade in accordance with Claim 15, wherein a longitudinal axis of the at least one cavity follows a twist of the blade.
20. (Original) A fan blade in accordance with Claim 15, wherein a cavity cross-section decreases gradually at its bottom end facing the blade root portion.
21. (Original) A fan blade in accordance with Claim 15, wherein the blade root portion and the blade tip portion are separate components connected together.
22. (Original) A fan blade in accordance with Claim 21, wherein the blade tip portion comprises a sheet-metal shell.
23. (Original) A fan blade in accordance with Claim 21, wherein the blade tip portion is constructed of a material that is different than that of the blade root portion.
24. (Original) A fan blade in accordance with Claim 15, wherein the blade tip portion comprises several cavities separated from each other by reinforcing ribs.
25. (Cancelled)